$6\cos^2 x - 6\,sen^2 x - 12\,senx\,\cos^2 x + 6\,sen^3 x = 0$

$$\frac{6}{6}\cos^2 x - \frac{6}{6}sen^2 x - \frac{12}{6}senx\cos^2 x + \frac{6}{6}sen^3 x = \frac{0}{6}$$

$$\cos^2 x - sen^2 x - 2\,senx\,\cos^2 x + sen^3 x = 0$$

$$(1-sen^2 x) - sen^2 x - 2\,senx\,(1-sen^2 x) + sen^3 x = 0$$

$$1 - sen^2 x - sen^2 x - 2\,senx + 2\,sen^3 x + sen^3 x = 0$$

$$3\,sen^3 x - 2\,sen^2 x - 2\,senx + 1 = 0 \qquad \{\text{pongo } senx = t\}$$

$$3t^3 - 2t^2 - 2t + 1 = 0 \qquad \underline{\text{USO RUFFINI}}$$

$$\begin{array}{c|ccc|c} & 3 & -2 & -2 & +1 \\ 1 & & 3 & 1 & -1 \\ \hline & 3 & 1 & -1 & // \end{array}$$

RISULTA $(t-1)(3t^2+t-1)=0$

ESSENDO $t = senx$ si ha:

$$(senx-1) = 0 \longrightarrow senx = 1 \Rightarrow x = \frac{\pi}{2} + 2k\pi$$

$(3\,sen^2x + senx - 1) = 0$ risolvo come una equazione di 2° grado

$$senx_{1,2} = \frac{-1 \pm \sqrt{1+12}}{6} = \frac{-1\pm\sqrt{13}}{6};$$

$$senx = \frac{-1+\sqrt{13}}{6} \Rightarrow x = 25{,}738\ldots^\circ + 2k\pi\ ;\ (\pi - 25{,}738^\circ) + 2k\pi$$

$$senx = \frac{-1-\sqrt{13}}{6} \Rightarrow x = -50{,}138\ldots^\circ + 2k\pi\ ;\ (\pi + 50{,}138\ldots^\circ) + 2k\pi$$